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Burma

Grain and Feed

Corn Update

2003

Approved by:
S. Rodrick McSherry, Agricultural Counselor
U.S. Embassy, Bangkok

Prepared by:
Daphne Khin Swe Swe Aye, Agricultural Specialist

Report Highlights:
Corn in Burma is the second most important cereal crop, after rice. Burma's corn production should reach 750,000 metric tons (mt) in MY2003/04, up 100,000 mt from last year. Growth in the livestock sector is driving corn production, along with a relatively free export market; there are (mostly) no GOB restrictions on corn exports.

Includes PSD Changes: Yes
Includes Trade Matrix: Yes
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Executive Summary

Post forecasts that Burma's corn (feed grain) production will reach 750,000 metric tons in 2003/04, up 100,000 metric tons from last year's crop. The growth in production is due to an anticipated increase in the hybrid corn seeded area and an assumption of a return to normal weather conditions. Total harvested area of corn (feed grain) in 2003 is forecast at 300,000 hectares, but yields will be constrained by the increased cost of critical inputs. (Approximately another 190,000 hectares of edible corn and sweet corn is also harvested annually, but these generally do not enter the feed sector.)

Corn production in the 2002/03 marketing year is estimated to be 650,000 metric tons. The projected increase for next year reflects farmers' likely response to substantial growth in private sector exports followed by a strong demand for feed from the expanding domestic (broiler and layer) livestock sector. The Government of Burma's (GOB) five-year plan to increase seeded area to 324,000 hectares by 2005/06 is attainable since farmers now have the freedom to select their crops. The GOB also plans to substitute local varieties with improved and hybrid corn cultivars by 2006. Corn prices have become more attractive due to the increased demand from the expanding domestic livestock sector and an unhindered export market, so production should respond. Corn has (mostly) no restrictions on trade and is reported to account for 35 percent of total agricultural crop export earnings (Business Tank Magazine, official GOB publication.)

Burma is estimated to export about 125,000 metric tons of corn in 2002/03, up about four percent above last year, with Bangladesh consuming 49 percent of the total corn export volume. Unlike rice, corn exports are not controlled by a government monopoly. Private exporters compete in the corn export market with Myanmar Agricultural Produce Trading (MAPT), a State trading agency of the Ministry of Commerce and Ministry of Agriculture and Irrigation. On occasion the GOB will control or curtail corn exports if domestic prices of feed increase.

The government is encouraging the production of a more diversified basket of agricultural products for export, including corn. Since corn exports have steadily increased from 1,000 metric tons in 1989 to 120,000 metric tons in 2001/02, the government is concentrating more on corn exports where world market prices are relatively more favorable than that of rice. In order to increase production, the Ministry of Agriculture and Irrigation has concentrated on replacing local varieties with domestic and imported hybrid corn, which has proved successful and popular among farmers. Burma's corn may have added attraction in some markets as it is free from GMOs.

If drying facilities for corn can be improved above that of natural drying (solar) techniques, the moisture content of corn will be stabilized, thereby reducing aflatoxin content and bringing higher prices. A major obstacle faced by Burmese traders when exporting corn is a fluctuating moisture content that would only be manageable with adequate, modern drying facilities.

Production

Corn is one of Burma's major crops, grown throughout the entire country. It is the second most important cereal crop after rice in the domestic food chain. The major growing areas are the Shan State, the Chin State, Sagaing, Mandalay, Irrawaddy and Magwe Divisions.

Burma produces three types of corn: corn (feed grain), edible corn, and sweet corn. Corn (feed grain) is mainly utilized for animal feed and export stocks. This report focuses only on

corn as feed, with all statistics reporting only corn (feed grain). Edible and sweet corn are grown throughout the country during the monsoon and cold seasons and are consumed primarily as snack foods. The harvested area of edible corn and sweet corn is estimated at about 190,000 hectares scattered throughout the corn growing areas.

Post forecasts that Burma's 2003/04 corn production will reach 750,000 metric tons, a total harvested acreage of 300,000 acres assuming normal weather patterns in mid-to-late 2003. The high price of production inputs (fertilizer) will be the major factor hampering improved yields.

Corn production is entirely dependent on monsoon rains for moisture, and the cultivation of these crops is determined by the status of moisture in the soil. In Burma, corn is grown in the monsoon season (80% of total planted area) as well as the cold season (20% of total planted area) where adequate moisture exists.

Yields generally range from 2.90 metric tons to 3.68 metric tons per hectare depending on the hybrid variety. Hybrid corn is much higher yielding as compared to local varieties producing 1.70 metric tons per hectare. Since corn sown in the post cold season relies heavily on residual soil moisture, or the rainy season's monsoon rains, timely seeding is crucial to the crop's success.

Last year's average yield increased 6 percent compared to the previous year's yield of 2.09 metric tons per hectare as farmers are switching more to hybrid varieties and away from the local low yielding traditional varieties.

Varieties

The Agriculture Institute in Yezin, under the Ministry of Agriculture and Irrigation, released four local hybrid varieties of corn namely Yezin 2, 3, 4 and 5. Yezin 2 and 3 are intended for hillside production such as in the Shan State while Yezin 4 and 5 are more suited for flat lands such as in the Irrawaddy and Mandalay Divisions. Apart from that, Charoen Pokphand (CP), a Thai agro-conglomerate, imported three hybrid varieties CPDK (888), CP 989 and CP 999. Yezin varieties cost about Kyat 400 per kilo with a prescribed seeding rate of 6 kilos per acre, whereas CP hybrid varieties cost about Kyat 1,100 per kilo with a seeding rate of 5 kilos per acre. The estimated yield of Yezin hybrid is about 4.47 metric tons per hectare compared to CPDK (888), CP999, CP 989 at about 9 metric tons per hectare. Even though the CP hybrid price is double that of local hybrids, farmers prefer CP varieties due to higher yields per acre and CP's market assurance by buying back all seed stocks at the prevailing market price. At the time of the report, 900 Kyat equaled $1.00 U.S.

Fertilizer

The Government of Burma no longer subsidizes fertilizer so now farmers depend on the open market for fertilizer supplies. The annual demand for chemical fertilizer is about one million metric tons. Myanma Agriculture Service (MAS), an agency of the Ministry of Agriculture and Irrigation, undertakes the distribution of domestically produced fertilizer for selected high yielding zones. The Central Statistical Organization stated that fertilizer production from the three State fertilizer plants in 2002 was 44,267 metric tons, down 26 percent from the previous year's production of 60,093 metric tons, and 64 percent below 2000 production levels of 167,559 metric tons. The three State fertilizer plants have been unable to meet demand due to decreasing output volumes. The declines in fertilizer production may be attributed to the limited availability of necessary inputs such as electricity and fuel for machinery. Imports of fertilizer are permitted, but high prices relative to domestic producer incomes prevent farmers from acquiring the necessary quantities. Nevertheless, farmers

prefer to purchase from the open market since the price margin between the GOB and the market is relatively small and farmers can buy specified amounts on credit in the market.

Since high yielding hybrid varieties are dependent on fertilizer, sufficient utilization of agricultural inputs plays a crucial role in production. With the fluctuating value of the Kyat, imported fertilizer prices have increased drastically compared to previous years. The prevailing price for a 50 kg bag of Urea fertilizer is about Kyat 7,800, an increase of 56 percent from the previous year. Nevertheless, if corn prices improve farmers will find it beneficial to invest more in production inputs, increasing the potential for imported fertilizer.

PSD Table

Country	Burma						
Commodity	Corn			(1000HA)		(1000MT)	
	Revised		2001	Preliminary 2002		Forecast 2003	
		USDA	Old	New	Old	New	Old	New
Market year begin			10/2001		10/2002		10/2003	
Area harvested			250	251	310	300	300	300
Beginning Stocks			0	0	148	0	358	300
Production			524	524	660	650	660	750
TOTAL Mkt.Yr Imports			3	0	0	0	0	0
Oct.-Sept. Imports			3	0	0	0	0	0
Oct.-Sept. Imports.U.S.			0	0	0	0	0	0
TOTAL SUPPLY		527	524	808	650	1,018	750	
TOTAL Mkt. Yr Exports			29	120	50	125	100	130
Oct.-Sept.Exports			29	120	50	125	100	130
Feed Dom. Consumption			0	404	400	525	450	620
TOTAL Dom. Consumption			350	404	400	525	468	620
Ending Stocks			148	0	358	0	1018	0
Total Distribution			527	524	808	650	1,008	750

Consumption

Edible corn and sweet corn serves as substitute staples food for rice in Upper Burma and the various hillside regions where they are consumed in rice mixtures or as a snack between meals. In the Chin State, a rice deficient area on the southwestern border, edible corn is predominantly consumed in combination with rice as the staple cereal dish.

With an average annual growth rate of about 8 percent from the broiler industry, total domestic consumption of corn is estimated to increase in order to meet the increasing demand of the expanding domestic livestock sector. There are six commercial feed mills in Rangoon and Mandalay, two owned by CP, two operated by Maykha (Burmese private sector investors together with COM feed from Indonesia), one owned by the government, and one by a private group named San Pya. Broiler/Layer feed rations in feed mills are currently composed of 50 to 60 percent corn. It is estimated that 60 percent of the corn production is used for domestic feed consumption and 40 percent for the export market. The byproducts of corn, such as leaves and stalks are also used as fodder for animals and as wrappers for corn cheroots, a popular type of sun dried cigar with square cut ends. As a result of adequate production and supplies, Burma does not import feed.

Average Wholesale Prices of Corn

Country	Burma		
Commodity	Corn		
Prices in Kyat	per metric ton		
Year	2001	2002	% changes
January	35,505	49,692	40
February	39,945	48,174	21
March	45,275	47,656	5
April	43,054	50,246	17
May	49,949	45,584	-9
June	52,234	43,512	-17
July	63,342	54,908	12
August	51,077	45,066	-11
September	48,636	57,498	18
October	55,869	54,908	-2
November	60,668	56,980	-6
December	65,490	60,088	-8

Exchange rate: 900 to 1 US$
Source: Agriculture News Bulletin

Trade

Burma is a net exporter of corn and has been for the past forty years. Corn trade is not normally restricted or controlled by the GOB, other than periodic intervention to control exports when domestic prices climb to undesirable levels.

Export Trade Matrix, by marketing year

Country	Burma		
Commodity	Corn		
Time period	Oct.01-Sept.02	Units: MT	
Exports for 2001	Import		
U.S.	0	U.S	0
Others:		Others:	0
Bangladesh	58,618		
Brunei	99		
Hongkong	5,419		
India	250		
Malaysia	7,881		
Singapore	292		
Total for Others	72,559		
Others not listed	47,240		
Grand Total	119,800		

Export Trade Matrix, comparison by calendar year

Country	Burma	
Commodity	Corn	
Time period	Jan.01-Dec.01	Jan.02-Dec.02
Exports for		
U.S.	0	0
Others:		
Bangladesh	60,618	79,536
Brunei	0	99
Hongkong	11,495	4,431
India	1,014	250
Malaysia	2,297	7,990
Singapore	1,505	60
Japan	20	0
Total for Others	76,949	92,366
Others not listed	64,851	71,134
Grand Total	141,800	163,500

Note: Burma does not import any Corn.

Policy

The GOB aims to increase seeded area to 324,000 hectares by 2005/06 with production targeted to reach 778,000 metric tons in order to fulfill the domestic feed requirement for the livestock sector and increased demand for corn exports. In order to meet these requirements, the GOB, in a five-year plan, intends to increase the seeded acreage to 310,000 hectares producing 750,000 metric tons by 2003/04. In order to fulfill these objectives, 21,320 hectares across twenty-six townships were designated as special zones for corn production in 2002/03. Of the twenty-six townships, four were from Mandalay and Magwe, six from Sagaing, seven from the Irrawaddy Divisions and Shan State, and one from Kayah State.

The work plan to replace local varieties with high yielding hybrid corn varieties is as follows:

Actions to be taken	Base year	Targets		
('000 hectares)	2002/03	2003/04	2004/05	2005/06
Seeding hybrid quality	85.6	100.8	115.6	164.4
Increased seeding of HYV* variety	90.8	90.8	118.4	128
Replacing with good strain variety	-	1.2	2.4	4.8
Seeding Yezin Shwe war variety	-	-	-	1.2
Decreased area on local variety	96.8	80.4	75.2	57.6
Increased acreage	-	38.4	32.4	25.2
Total	273.2	311.6	344.4	369.2

**Note: HYV - High Yielding Variety*

At present, hybrid corn seeds constitute about 30 percent of the total planted area and are expected to increase to 60 percent of total corn seeds by 2005. The Myanma Agriculture Service (MAS) distributes the hybrid seeds Yezin (2), (3) and (4) at Kyat 400 per kilo.

CP from Bangkok

It was learned that in 1995 CP introduced hybrid corn varieties CPDK (888), CP 989 and CP 999 to farmers by donating the seeds and buying back the produce through the Myanma

Agriculture Service. Gradually CP hybrid corn began to gain popularity among farmers due to higher yields at less cost per acre and market assurance from CP by buying back harvested seed at the prevailing market rate. Farmers who cannot afford a cash down payment for this seed have the opportunity to purchase on credit terms through the Myanma Agriculture Service. It was learned that CP hybrid corn varieties can withstand drought and fair weather conditions while maintaining output performance. Their seeding period till harvest is only about 120 days, which allows for two crops per year, with a seed germination rate of about 90 percent. The divisions and townships currently involved in growing CP hybrid corn varieties are Myingyan, Ngazun and Taikkone townships of Mandalay Division; Henzada, Nyaungdone and Zalun townships of Irrawaddy Division; Lashio and KyaukMe of the Northern Shan State; Myiykyina township of Kachin State; and Taungdwingyi of the Magwe Division.

It was discovered that an additional target was set to increase planted corn area to 400,000 hectares through the coordination and cooperation of CP and the Myanma Agriculture Service. An area of 48,000 hectares has already started producing hybrid corn of which 10,160 hectares are in the Irrawaddy Division. CP has held annual award ceremonies for farmers based on the best yields per acre in order to promote the usage of CP hybrid seeds. CP's hybrid corn costs about Kyat 125,000 per hectare generating Kyat 220,000 in per hectare income and yields a profit margin of about Kyat 95,000 per hectare. Due to CP's promotional campaigns, CP hybrid corn varieties are more popular in the market than local Yezin hybrid varieties. CP also stressed that due to proper cultivation practices, as introduced by CP and the Myanma Agricultural Service, Burma's corn hybrid yield per acre has increased, reaching yields near that produced in Cambodia, Thailand and Vietnam.

End of Report.